



HyVelocity H2Hub

Frequently Asked Questions

Why clean hydrogen?

Clean hydrogen (H₂) is a versatile energy carrier that offers a path to a clean and sustainable energy future. Hydrogen is scalable and is already in broad use, and there is growing recognition that hydrogen presents a viable decarbonization solution for many applications.

Hydrogen can:

- Add value to multiple sectors of the U.S. economy.
- Serve as a sustainable and zero- or low-carbon fuel for transportation and to produce electricity and heat for homes.
- Serve as energy storage, allowing higher penetration of renewables and providing ancillary benefits to the grid.
- Be exported to markets that are looking for carbon-free energy.

Why “blue hydrogen” and how is it different from “green hydrogen?”

Hydrogen is an abundant energy source, often referred to as “the Swiss Army Knife of energy.” Although there are no official definitions, many people color-categorize the sources of hydrogen. “Blue hydrogen” refers to hydrogen sourced from natural gas, where carbon capture techniques are used to remove carbon during the process, thereby reducing the carbon footprint of the hydrogen. “Green hydrogen” generally refers to hydrogen produced from electrolysis that is powered by renewable sources like wind, water, or solar. HyVelocity includes a mix of “blue,” and “green” production.

Why are hydrogen hubs important?

Hydrogen hubs are the foundation of a national clean hydrogen network that will play a significant role in decarbonizing multiple sectors of the economy. Matching the scale up of clean hydrogen production to a growing regional demand is a key pathway to achieving large-scale, commercially viable hydrogen ecosystems.

Why the Gulf Coast?

The world’s largest concentration of existing hydrogen production assets, infrastructure, and customers are in the region encompassing Texas and the Gulf Coast. Through an existing energy infrastructure network of 48 hydrogen production plants and over 1,000 miles of dedicated hydrogen pipelines, the Texas Gulf Coast produces 3.5 million metric



tons per annum of hydrogen, which is one third of annual U.S. hydrogen production. The Gulf Coast region's geology is well-suited for carbon capture and sequestration, as well as the development of salt caverns for bulk underground storage of hydrogen. Finally, the region is anchored by the largest U.S. port in terms of tonnage in Houston, with six additional international ports nearby.

What will be done with the hydrogen produced at the HyVelocity H2Hub?

In addition to existing hydrogen uses, such as industrial and chemical processes, the clean hydrogen produced at the HyVelocity H2Hub will be used to decarbonize process heat, chemical manufacturing, power generation (both from fuel cell power and from turbine power), and for marine and on-road vehicle applications.

Will the HyVelocity H2Hub hydrogen production come from renewables?

The State of Texas has the highest renewable power generation capacity of any U.S. state. Much of that capacity will experience curtailment without the availability of grid-scale, long-duration energy storage capacity. An important part of that energy storage solution will be the conversion of that renewable energy to hydrogen so that it can be transported to where the energy is needed, when it is needed. About 14% of the hydrogen produced for the HyVelocity H2Hub is anticipated to come from renewable energy sources and this percentage will increase over time.

What's unique about the HyVelocity H2Hub?

The HyVelocity H2Hub is built on the largest hydrogen infrastructure network in the world in the Gulf Coast. The region's existing infrastructure will be expanded, modified, and in some cases, repurposed to create region-wide cost efficiencies that support sustainable, growing demand for clean hydrogen in Texas and Louisiana. HyVelocity will use both natural gas with carbon capture techniques and renewables to support a growing national hydrogen framework.

What kind of experience does the HyVelocity H2Hub team have?

The HyVelocity H2Hub team comprises some of the most successful, experienced, leading energy companies in the world. The hub will be administered by GTI Energy which has decades of experience in leading public-private partnerships, The Center for Houston's Future, a well-established thought leader and regional planning organization in Texas, and the University of Texas at Austin, which ranks among the 40 best universities in the world. More than [90 organizations](#) (and growing) support the hub and are lending resources, guidance, and leadership for reaching the U.S. Department of Energy's (DOE) clean hydrogen goals as well as regional goals for environmental, societal, and economic impact.



Are there competing proposals for federal funding for hydrogen in the Gulf Coast?

Yes, DOE will receive multiple applications for funding for a variety of regional hydrogen hubs throughout the nation. The HyVelocity H2Hub team is focused on making its initiative the best regional representation of a public-private partnership between DOE and regional industry leadership. The HyVelocity Hub team has collaborated with several regional hub teams to facilitate an interconnected, national framework for hydrogen production and end use. HyVelocity will continue to consider adding projects and partners to create a single Texas and Gulf Coast regional hub.

What types of projects are partners bringing to the hub?

The core of the HyVelocity H2Hub team's success is the industry participants whose proposed projects, resources, and community benefits plans represent a network of infrastructure projects that include clean hydrogen production supply. The hub encompasses a variety of projects, including end-use applications, connective infrastructure, pipelines, shipping, and trucked hydrogen delivery. Additional projects from prospective regional partners were included in the full proposal to DOE.

What are the benefits of including conventional energy companies in the hub?

HyVelocity is especially proud of its strong mix of supporting partners, which includes global energy companies, leaders in renewable energy production, new technology companies, advanced vehicle technology providers, pipeline operators, industrial gas companies, Ports, seven universities including the Texas' largest public universities, leading nonprofits, community organizations, DOE national laboratories, and U.S. Clean Cities organizations. The hub is led by commercial-focused organizations, keeping with DOE's goals to deploy high-impact infrastructure that can rapidly support the deployment of clean, commercially viable hydrogen applications that will bring a significant economic benefit to the region. This impressive mix of participants demonstrates the broad applications and benefits of hydrogen in today's energy economy. Each of these organizations bring important resources, technology, and market access that will help accelerate clean hydrogen use.

Is the hub supported by state and/or local governments?

Yes, the HyVelocity H2Hub has bipartisan support from elected leaders at the federal, state, and local levels of government, as well as government entities such as the Metropolitan Transit Authority of Harris County and Port Houston. We are proud of the government support for the hub, and we know that the commercial activities of clean hydrogen deployment do not stop at city, county, or state lines, but instead should be



focused on regional economic, societal, and environmental benefits that are not limited to specific government jurisdictions.

How will you engage with and benefit the surrounding communities?

The HyVelocity H2 Hub team's approach to bringing community benefits to the Gulf Coast is founded on building and strengthening economic resilience, community wealth, and quality of life to make a lasting positive impact on communities in the region. The Gulf Coast is home to more than 10 million people, many impacted by grid failures, flooding, and natural disasters. The HyVelocity H2Hub team will ensure economic, environmental, and social resiliency through ongoing community engagement, investments in local and region workforce, advancements in inclusive, equitable, and accessible economic opportunities, and assurances that at least 40% of the clean energy benefits resulting from the hub will flow to disadvantaged communities through such programs as workforce training and hiring, community college upskilling, higher education curriculums, and community-based grants.

The HyVelocity H2Hub team will connect and interface with industry partners, community partners, workforce groups and all stakeholders to ensure strong and lasting community benefits throughout the entirety of the project.